



## Practice

### 5.3 Factoring Quadratic Expressions

Factor each expression.

1.  $12x - 60$  \_\_\_\_\_ 2.  $-24x + 4x^2$  \_\_\_\_\_

3.  $(2 - 7x) - 3x(2 - 7x)$  \_\_\_\_\_ 4.  $4x(x - 12) - 3(x - 12)$  \_\_\_\_\_

5.  $3x^2 + 21x$  \_\_\_\_\_ 6.  $-3x^2 + 105x$  \_\_\_\_\_

Factor each quadratic expression.

7.  $x^2 + 17x + 52$  \_\_\_\_\_ 8.  $x^2 - x - 20$  \_\_\_\_\_ 9.  $x^2 - 7x - 18$  \_\_\_\_\_

10.  $x^2 + 11x + 28$  \_\_\_\_\_ 11.  $x^2 - x - 90$  \_\_\_\_\_ 12.  $x^2 + 11x - 26$  \_\_\_\_\_

13.  $4x^2 + 4x + 1$  \_\_\_\_\_ 14.  $3x^2 + 5x - 2$  \_\_\_\_\_ 15.  $2x^2 - 3x - 2$  \_\_\_\_\_

Solve each equation by factoring and applying the Zero-Product Property.

16.  $x^2 - 256 = 0$  \_\_\_\_\_ 17.  $5x^2 - 125 = 0$  \_\_\_\_\_ 18.  $x^2 + 9x + 14 = 0$  \_\_\_\_\_

19.  $3x^2 - 6x + 3 = 0$  \_\_\_\_\_ 20.  $4x^2 - 12x + 9 = 0$  \_\_\_\_\_ 21.  $6x^2 - x - 1 = 0$  \_\_\_\_\_

22.  $9x^2 - 4 = 0$  \_\_\_\_\_ 23.  $5x^2 + 1 = 6x$  \_\_\_\_\_ 24.  $7x^2 - 2 = 5x$  \_\_\_\_\_



Use factoring and the Zero-Product Property to find the zeros of each quadratic function.

25.  $f(x) = x^2 - x - 12$  \_\_\_\_\_ 26.  $g(x) = 2x^2 + 3x - 5$  \_\_\_\_\_ 27.  $h(x) = x^2 + 12x - 45$  \_\_\_\_\_

28.  $b(x) = x^2 - 13x + 42$  \_\_\_\_\_ 29.  $k(x) = 2x^2 + 3x - 2$  \_\_\_\_\_ 30.  $q(x) = 4x^2 + 12x + 9$  \_\_\_\_\_

# DID YOU HEAR...

1.	2.	3.	4.	5.	6.	7.
8.	9.	10.	11.	12.	13.	14. ?

 Solve the equation by factoring. Write the word next to the answer in the box that contains the exercise number. 

1.  $a^2 - 8a = -15$

2.  $y^2 + 6y = 7$

3.  $k^2 - 10 = 9k$

4.  $w^2 = 13w$

5.  $11x = -x^2 - 24$

6.  $d^2 = 50 - 23d$

7.  $3p^2 - 14p = 5$

8.  $2m^2 + 14 = 11m$

9.  $8 - 3t = 5t^2$

10.  $16h^2 = 25$

11.  $25b + 11 = -6b^2$

12.  $36u = 9u^2$

13.  $12q^2 = 17q + 5$

14.  $9 = 12x - 4x^2$

$\{-5, -2\}$  CIRCUS

$\{0, 13\}$  OF

$\{\pm \frac{5}{4}\}$  SCARED

$\{2, \frac{7}{2}\}$  WHO

$\{3, 5\}$  THE

$\{-\frac{1}{4}, \frac{5}{3}\}$  DEATH

$\{-\frac{11}{2}, \frac{1}{3}\}$  BY

$\{-8, -3\}$  THE

$\{\frac{3}{2}\}$  TWICE

$\{-1, 10\}$  STORY

$\{4, 5\}$  JUMPED

$\{-\frac{8}{5}, 1\}$  WAS

$\{\frac{1}{3}, \frac{5}{4}\}$  HER

$\{-\frac{1}{3}, 5\}$  LADY

$\{0, 4\}$  TO

$\{1, -7\}$  SAD

$\{-12, 2\}$  CRAZY

$\{-\frac{11}{3}, -\frac{1}{2}\}$  HALF

$\{1, \frac{5}{3}\}$  CLOWN

$\{-25, 2\}$  UNFORTUNATE